

## **DRAFT MEETING SUMMARY (v.0)**

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### **HANFORD ADVISORY BOARD JOINT MEETING OF TANK WASTE AND BUDGETS AND CONTRACTS COMMITTEES May 21, 2003 Richland, Washington**

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*This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.*

#### **Welcome and Introductions**

Tank Waste Committee Chair Doug Huston welcomed the committee and guests and briefly reviewed the agenda.

#### **Department of Energy – Office of River Protection (DOE-ORP) Baseline Presentation**

Tom Hoertkorn, CH2MHill Hanford Group (CHG) and Delmar Noyes, DOE-ORP, reviewed the new ORP Baseline Change Request (BCR). ORP and CHG worked together to develop approaches and tools for the acceleration of the overall tank farm closure. The Mission Acceleration BCR presents a baseline that significantly accelerates the closure of tanks while aligning to the Waste Treatment Plant (WTP). The CHG baseline has been closely aligned with:

- o Revised Performance-Based Incentives;
- o Contract modifications;
- o The Hanford Tank Waste Operations Schedule model scenario assumptions from January 28, 2003; and,
- o The Integrated Mission Acceleration Plan (IMAP).

According to ORP and CHG, the BCR:

- o Has a life cycle savings of \$6.3 billion compared to the Hanford Performance Management Plan (HPMP);
- o Continues to maintain safe and compliant storage of tank wastes;
- o Maintains commitment and improves baseline detail for the Tri-Party Agreement (TPA);
- o Completes interim stabilization projects in Fiscal Year (FY)2004;
- o Closes 26 tanks by 9/30/06;
- o Completes down-select of supplemental treatment options for low activity waste (LAW).

Tom and Delmar presented a brief summary of the scope descriptions in the new BCR. These are:

#### Readiness for Mission Execution (section 5.07):

- o Safe and compliant storage of Hanford tank wastes until waste is retrieved for processing.
- o Monitor and maintain tanks and equipment in compliance with the Technical Safety Requirements, Environmental, Safety Health and Quality programmatic requirements and the TPA.
- o Compliance efforts to meet milestones M-23, M-48, and M-46.
- o Necessary support such as project management, business services and administrative functions.
- o Site infrastructure.

#### Retrieve and Close (section 5.08):

- o Retrieve waste from single shell tanks (SSTs) as space permits.
- o Transfer a portion of the low-level waste (LLW)/LAW and Transuranic (TRU) waste from SSTs for supplemental processing and treatment.
- o Transfer LAW and high-level waste (HLW) to the WTP through the double-shell tank (DST) system.
- o Removal of pumpable liquids from SSTs to minimize the risk of leakage.
- o Consolidation of some of the activities associated with interim tank closure.
- o Completion of the necessary cleanup action on tanks, ancillary equipment and soils.

#### Treat and Dispose Waste (section 5.09):

- o Providing supplemental treatment capabilities for LLW/LAW and TRU waste.
- o Engineering, design, construction and operation of supplemental facilities to augment the treatment capability of the WTP.
- o Facilities that provide alternative treatment approaches.

- o Interim storage and disposal of immobilized HLW (IHLW) and immobilized LAW (ILAW) products received from the WTP and through supplemental LAW treatment.

The BCR Milestones maintain compliance with TPA and Consent Decree requirements; however the BCR does not currently align with eleven TPA milestones. These milestones include three associated with the WTP. These will be re-evaluated after the conclusion of TPA M-62 negotiations. The other 8 milestones are associated with SST retrieval activities and would be satisfactorily met with the acceleration actions identified in the IMAP. CHG and ORP legal teams were consulted on this issue and directions were provided on how to maintain compliance with TPA commitments.

### **Committee Discussion**

- Steam reforming is still an option among the supplemental technologies, according to Tom. Cold demonstrations and a hot radioactive product comparison are underway which will feed into the selection process in September.
- How will DOE qualify the products for supplemental technologies? A performance assessment, which will have to demonstrate that any new technology is comparable to glass, will be presented to the Nuclear Regulatory Commission (NRC). Leach tests will be run on all three technologies and the standards will be the same as for the ILAW gas. This process will be completed in September as part of the down-select.
- What is the basis for the tank closure cost estimate? Rick Milliken, CHG, replied \$13 million per tank was the starting point. Each of the three supplemental technologies was assigned to a tank and the cost was estimated based on that. It was also based on an estimate of duration and some of the experience from other closures. These are not definitive estimates; they are based on the technologies that will be employed.
- A committee member asked if there is a list of deleted scope for review. One is available; Rick added that most of the deletions were on the administrative side and were the result of the creation of efficiencies.
- The first tank scheduled for closure will be C106 in August. Tank S112 will be completed in September and S102 in the November time frame.
- Gerry Pollet commented it is not acceptable to piecemeal the decisions on tank closure. A review of closure is needed with full risk assessment information adequate for an environmental impact statement (EIS). The cumulative risk impact needs to be understood.
- Several committee members asked if it is wise to have swings in the budget as shown in the baseline. Greg Jones, DOE-ORP, replied that this is a baseline to show what the work is. Since the baseline does not make sense relative to appropriations, that is worked out each year.
- A committee member asked about the risk DOE is assuming by using this scope profile. Jim Honeyman, CHG, stated the scope is based on the assumption that supplemental technology can be used at a much lesser cost than what is currently

available. The IMAP identifies the risk at a very high level but not at a life cycle level.

### **Regulator Perspectives**

- Suzanne Dahl, Washington State Department of Ecology (Ecology), stated the information Ecology is receiving is at a much different level than in years past. In the past the dollar figures for specific activities were available; now Ecology must dissect the BCR to determine specific costs. In regards to accelerated tank closure, Ecology is committed only to the seven tanks outlined in the TPA. More tanks may be added so long as all TPA requirements are met. The TPA process cannot be shortcut to meet closure schedules. Any new supplemental technologies must be as good as glass. There is a disconnect in that the EIS will be released before final data is available on the technologies. Ecology wants to ensure they will continue to be part of the ongoing activities and determinations; they support DOE's attempt to complete work more quickly but will not agree to anything that would not match the TPA. Ecology has just received the budget documents so there has not been adequate time for review.

### **Bechtel National Inc. (BNI) Baseline**

Howard Gmann, DOE-ORP, presented information on the BNI baseline and the WTP. The programmatic objective of the WTP is to meet regulatory commitments to complete the River Protection Project Mission by 2028 and to save \$20 billion dollars. The WTP is required to support this objective. A second HLW melter is included in the baseline, as is supplemental LAW treatment technologies currently being evaluating by the tank farm contractor.

To complete the WTP, a phased construction approach is being used. This approach involves several steps.

- o CD-3A which authorizes basic utilities and foundation preparation. The estimated completion date is April 30, 2003.
- o CD-3B which authorizes concrete placement for HLW and LAW facilities basemat and walls to grade. 60% of this work has been completed.
- o CD-3C which authorizes the balance of the WTP through construction and integrated water testing. It also includes the balance of the WTP costs associated with these efforts.

The decision to authorize the balance of construction was originally scheduled for September 2002 but was delayed for several reasons. One reason was the funding level required to support the proposed project baseline was inadequate. Also, it was necessary to complete negotiations with BNI on open contract issues. Notifications to Congress

were necessary due to the increased cost of the proposed baseline. An assessment of readiness was completed as part of these notifications and several open issues were found. Programs are now in place to support this strategy.

The project was given a very low confidence rating by the Congressional review board due to the aggressive schedule. The board felt the design phase was too close to construction. New management improvement initiatives have been put in place to strengthen the WTP project. A realignment of the DOE organization was completed to strengthen and better integrate the project teams. A BNI management realignment is now in place with more experienced resources from outside of the WTP. The contract management is more accountable and existing contract issues have been resolved. There has been a joint DOE/BNI effort to eliminate unnecessary scope and to identify less costly alternatives. DOE has also applied the Minimum Essential Philosophy to the project to identify and evaluate scope elements that are not essential for successful operation of the WTP. Some of the items eliminated are:

- o Non-process buildings/structures
- o Technetium Ion Exchange System
- o Third diesel generator
- o Revised commissioning strategy
- o Analytical Laboratory Hot Cell Reductions.

These eliminations created a savings of about \$150 million.

Howard discussed the proposed BNI project baseline. BNI identified proposed increases to the WTP Total Project Cost (TPC) caused by: the added simulator training facility; revising the Analytical Laboratory configuration; a schedule extension; increase in the "Hotel Load;" increased support costs; and increased research and development costs. The baseline includes modifications to support HLW mission completion in 2028. Additional LAW processing and disposal capacity will be needed in future years to meet the 2028 deadline. The BNI contract and fee structure has been renegotiated and the final contract modifications are subject to review. Driven by changes in the commissioning strategy, discussions are currently underway with regulators to re-negotiate interim TPA milestones.

### **Proposed Project Baseline – Cost History**

Category	BNI Contract (\$B)	March 2003 Proposed Baseline (\$B)
Budgeted Cost of Work Scheduled (BCWS)	3.465	4.856
Contract Contingency (50% Confidence)	0.500	0.368
Contract Contingency (80% Confidence)		0.182
Estimated Fee (CPDS)	0.335	0.225
Subtotal	4.300	5.631
Technical and Programmatic Risk	0	0.100

Assessment (TPRA) (80% Confidence)		
Total Project Cost	4.300	5.731
Contract Transition Cost	0.050	0.050
Construction Project Data Sheet	4.350	5.781

The project contingency and technical/programmatic risk was determined using a probabilistic approach compliant with DOE Order 413.3. There is an 80% confidence level included in the proposed baseline. The technical/programmatic risk analysis identified 52 risks, down from the 103 identified in April 2001. The areas of most concern are the Ion Exchange Resin performance and environmental permitting. The funding for construction/commissioning scope is included in the FY2004 budget request. and the schedule is supported by a \$690 million annual funding profile.

Suzanne Heaston, BNI, added as design and construction continue, quarterly reviews will be instituted. The first review will take place on June 24<sup>th</sup>, 2003.

### **Committee Discussion**

- Several committee members wanted to know what stage of permitting the project is in. Howard responded there are two TPA milestones to meet and a change package has been submitted for these. There are a number of permit issues to be discussed, however, construction has not been impacted by these
- Committee members commented it might be helpful to hear more about the specific concerns of the Department of Health. Suzanne Dahl added there are permit modifications being proposed and it will be some time before the impacts are seen.
- The baseline appears to be proceeding without waiting for regulatory approval. Howard responded that the decision on supplemental technologies will be made in 2005. There is time built into the schedule for discussions with the regulators.
- A committee member stated there should be a review by Ecology and the Department of Health of the decision to remove the third LAW melter. Howard stated the 2+2 melter configuration will meet all of the commitments by 2018 and the National Environmental Protection Act (NEPA) coverage to support that action is in place. DOE believes they are pursuing the technically correct path.
- Suzanne stated the equation between supplemental technology and the third melter is unclear to Ecology and not all the information has been provided. Ecology expects the plant to function at least at the level originally intended. The issue is: if the third melter was put in place, the rest of the plant may not be able to keep up. There is currently an information exchange taking place to address specific questions on this.
- A committee member noted the prediction that the design construct process will not support the third melter was made even before the actual decision to eliminate the melter. Howard responded the testing performed on the pilot scale melter indicates a higher level of performance than expected. Optimization of the plant will be the real key to success. Space will be protected in the building so a third melter can be added

in the future if it is needed. Ed Rodgers, BNI, added the plant was designed to support the 45 million metric tons per day of material required.

- Joy Turner, Ecology, stated Ecology had been informed that the throughput was an issue for adding the third low activity waste melter. Howard responded the 45 metric ton capacity is one of the limiting factors as the two melters are designed for 30. The 45 metric ton is an average capacity. DOE is committed to seeing through supplemental technologies; at least one of the three is expected to be successful. DOE does not believe a third melter is a good investment at this time even though it may have to be done in the future at a greater expense.
- Melinda Brown, Ecology, commented that from a project manager's perspective, the concern is to keep costs down and accelerate progress. Melinda added these goals are opposed to the goals of the public. Howard added the challenge will be how to integrate an operating contractor in a short period of time. The Tank Farms and the feed delivery are beginning to be integrated and the integration model will be updated at least once a year.
- Maynard Plahuta commented that from a project management standpoint, the team is doing a marvelous job. The issue comes from the scope. Some of the decisions have been made without collaboration with regulators, the public and others. This builds a sense of distrust.
- As far as the public knows, a good reason has not been given for the 2007 startup date changing. The cost increased by one billion dollars and the schedule has lengthened without due reason being given. Howard replied that while the cost has increased, there will be greater success. The 2007 date cannot be made with any credibility and the public would not want DOE to spend the money attempting to.
- Several committee members commented there needs to be more open communication between DOE and the public. Howard responded that they are pledging to fix the relationship with the public and work to build the trust.

### **Regulator Perspectives**

- Melinda Brown commented Ecology is pleased with the progress being made in the field and that the full construction approval authorization was received. However, since Ecology has just received the new BNI baseline information and has not yet seen the BNI contract, she is not prepared to speak about the issue at this time. The BNI contract did change without input from Ecology. Additionally, the baseline and the contract include new pieces that are different from the TPA agreements.

A TPA change request for milestone M-69-2, Canister Storage Building construction, was received and a response on this matter is due back to DOE on June 2, 2003. Ecology will not sign this request. Time is needed to review the BNI contract and the baseline. Because of this, the matter will move to dispute resolution.

Ecology is unhappy to see construction delayed by 24 months because it may put the 2011 commitment in jeopardy. However, Ecology does applaud the idea of doing a longer cold testing period rather than a longer hot period because of the increased risk

to the environment during hot testing. Ecology has agreed to evaluate the use of supplemental technologies for a small fraction of the waste. The decision not to remove Technetium is a disappointment because it closes certain disposal options.

### **Discussion of Additional Issues for Committee Work**

The committee members decided advice couldn't be drafted because there are still too many questions regarding the baseline. The best course of action at this point would be to present a letter at the June Hanford Advisory Board meeting that states advice can't be prepared yet because of the questions listed below. Harold Heacock will draft a letter to ORP and re-work the list of issues below into a clearer set of questions to be answered.

### ***DOE-ORP Baseline Questions***

#### **CHG**

- Rationale for "wild" budget swings
  - Assumptions for cost of closure
  - Logistics/process of "closure" and how they're going to do it (How to physically close a tank? Programmatic/regulatory paths?)
  - Schedule – how are they going to close 13 tanks/yr?
  - Where is the TPA? Impacts
  - Risk mitigation? What are the risks to completion?
  - How they are going to do TRU removal – facilities and processes?
  - NEPA/RCRA review of decisions (re: TRU, LLW, closure) in baseline? (schedule of TW-EIS, NEPA timelines)
  - Program schedule by WBS? ("road map")
  - When will data on supplemental technologies be available for review? What assumptions are leading to a '05 decision?
  - List of deleted scope?
  - How many tanks in 1<sup>st</sup> closure are leaking or have leaked?
  - What's plan for retrieving material from 1<sup>st</sup> tanks?
  - What's in WBS 5.07.02? (Budget)
  - Relationship between BCR, IMAP, TPA?
  - Breakout and assumptions of \$1.4b suppl. tech life cycle
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#### **BNI**

- Why still claiming to save \$20B?
- What is included in the \$125m cost to add 3<sup>rd</sup> LAW melter in '05? (Compare to investment in suppl. techs) I.e., what technologies give you 15 met. Tons capacity for \$75m?
- What are costs of add'l infrastructure, etc. (handling) to add 3<sup>rd</sup> melter? (Go back to previous advice)
- How much of the LAW should be vitrified?

- Update on technical and programmatic risks? What are environmental permitting risks you see?
- What does cost increase do to funding profile?
- \$690m – how does it relate to what’s required now, given all the changes? What’s the relationship to CHG costs?

### **Handouts**

- Mission Acceleration Rebaseline, May 21, 2003.
- Waste Treatment and Immobilization Plan (WTP) Project 01-D-416, Roy J. Schepens, May 21, 2003.
- Work Breakdown Structure for the Tank Farm Contractor, May 21, 2003.

### **Attendees**

#### **HAB Members and Alternates**

Allyn Boldt	Jim Curdy	Jeff Luke
Ken Bracken	Harold Heacock	Todd Martin
Pam Brown	Doug Huston	Maynard Plahuta
Jim Cochran	Paige Knight	Gerry Pollet

#### **Others**

Yvonne Sherman, DOE-RL	Melinda Brown, Ecology	Suzanne Heaston, BNI
Tom Hoertkorn, DOE-ORP	Joy Turner, Ecology	Jim Honeyman, CHG
Greg Jones, DOE-ORP		Rick Milliken, CHG
Delmar Noyes, DOE-ORP		Liana Herron, EnviroIssues
Jennifer Sands, DOE-ORP		Lynn Lefkoff, EnviroIssues
		Sharon Braswell, Nuvotec
		Kristen Lerch, Nuvotec
		John Stang, TC-Herald